

Connecting Careers to Curriculum: NOC-CTS-CTF

Using Backwards by Design & Alberta Education's Competencies



How do we...



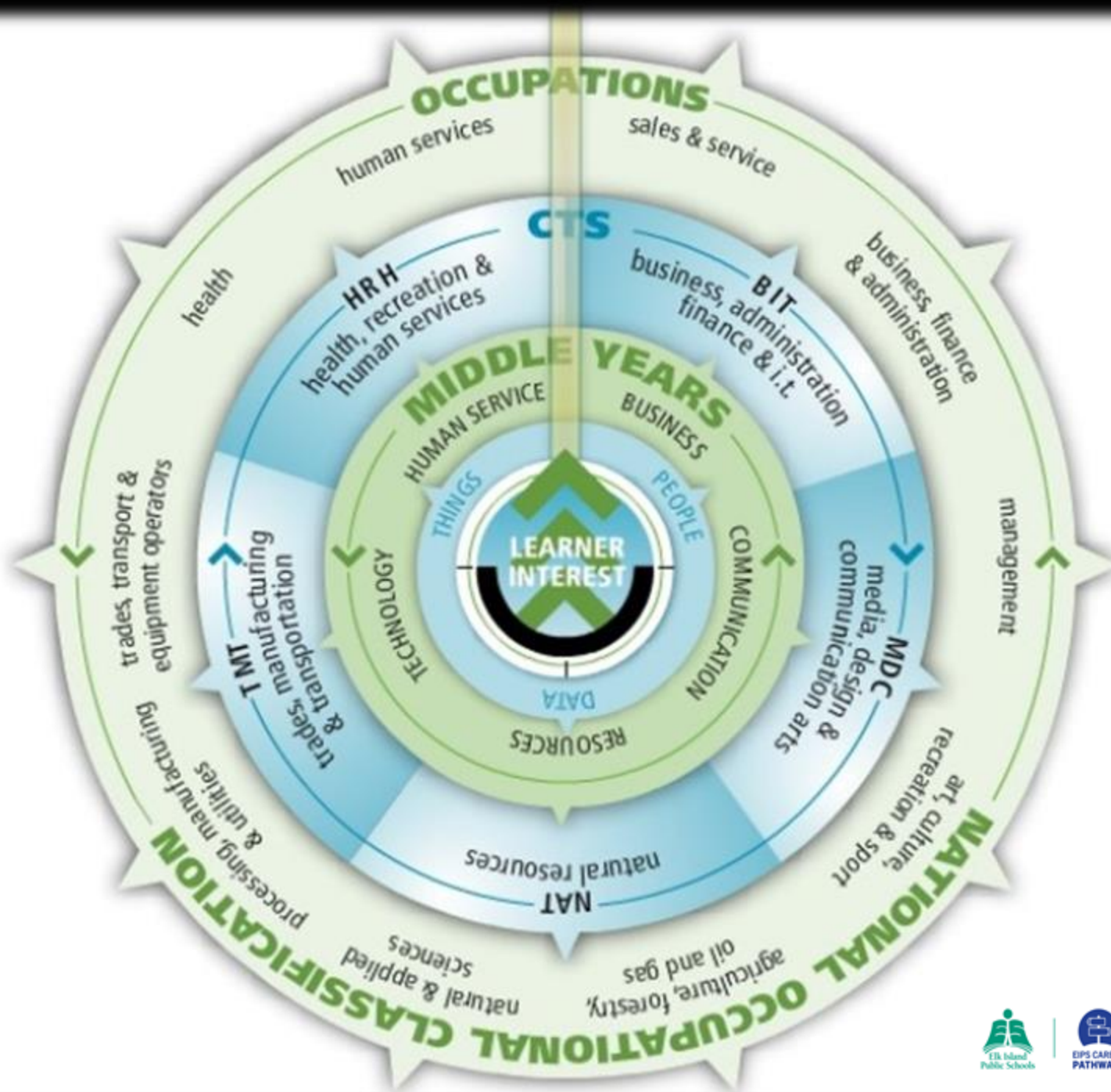
Build capacity to connect **NOC (National Occupational Classification)** to **CTS pathways** and **CTF courses**.



Empower teachers to design career-connected learning aligned with **Alberta Education's Competencies**.



Enable teachers to plan and create meaningful, exploratory CTF experiences, that follow a cohesive framework.



CTF Clusters and Occupational Areas

National Occupational Classification

GOALS

- Career learning fosters **student agency, purpose, and competency development.**
- The **NOC system** provides national, structured occupational insight.
- **CTS clusters** and **CTF courses** are powerful tools for early and progressive career exploration.
- Alberta Education Competencies guide **student growth** in real-world skills that are transferable across disciplines and careers.



Activity 1: Find your Fit!

Task:

Divide yourselves into 10 groups based on the NOC structure and the Career and Technology course you teach.

NOC Structure

Activity 2: Discussion

Question:

Which knowledge, skills, or attitudes are most important for students in your career cluster?

Task:

Within your group (cluster), identify the top skills and students should focus on in CTF. Categorize them based on:

- Priority 1:
- Priority 2:
- Priority 3:

- ▶ 0 Legislative and senior management occupations
- ▶ 1 Business, finance and administration occupations
- ▶ 2 Natural and applied sciences and related occupations
- ▶ 3 Health occupations
- ▶ 4 Occupations in education, law and social, community and government services
- ▶ 5 Occupations in art, culture, recreation and sport
- ▶ 6 Sales and service occupations
- ▶ 7 Trades, transport and equipment operators and related occupations
- ▶ 8 Natural resources, agriculture and related production occupations
- ▶ 9 Occupations in manufacturing and utilities



Alberta Education Competencies & Canada's Skills for Success



Critical Thinking



Problem Solving



Managing Information



Creativity and Innovation



Communication



Collaboration



Cultural and Global Citizenship



Personal Growth and Well-being

Competencies



[Student Competencies](#)

SKILLS FOR SUCCESS



[Skills For Success Link](#)



8. demonstrate basic competencies

8.1 demonstrate fundamental skills to:

- 8.1.1 communicate
- 8.1.2 manage information
- 8.1.3 use numbers
- 8.1.4 think and solve problems

8.2 demonstrate personal management skills to:

- 8.2.1 demonstrate positive attitudes and behaviours
- 8.2.2 be responsible
- 8.2.3 be adaptable
- 8.2.4 learn continuously
- 8.2.5 work safely

8.3 demonstrate teamwork skills to:

- 8.3.1 work with others
- 8.3.2 participate in projects and tasks

9. make personal connections to the cluster content and processes to inform possible pathway choices

- 9.1 complete/update a personal inventory; e.g., interests, values, beliefs, resources, prior learning and experiences
- 9.2 create a connection between a personal inventory and occupational choices

CTF Learning Outcomes

CTF is exploring interests, passions and skills while making personal connections to career possibilities.

- I explore my interests and passions while making personal connections to career possibilities.
- I use occupational area skills, knowledge and technologies.
- I follow safety requirements associated with occupational areas and related technologies.
- I demonstrate environmental stewardship associated with occupational areas.

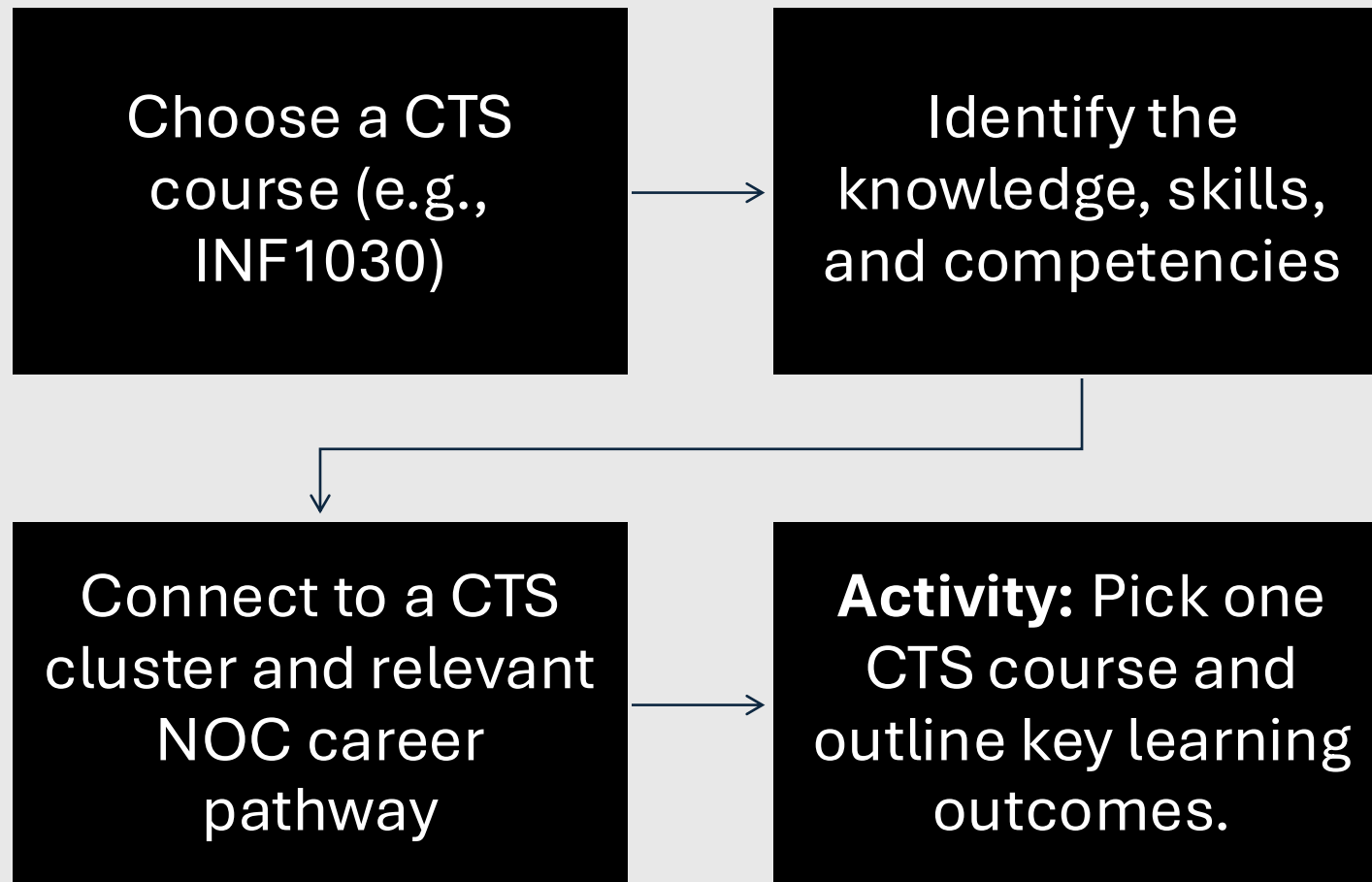
CTF is planning, creating, appraising and communicating in response to challenges.

- I plan in response to challenges.
- I make decisions in response to challenges.
- I adapt to change and unexpected events.
- I solve problems in response to challenges.
- I create products, performances or services in response to challenges.
- I appraise the skills, knowledge and technologies used to respond to challenges.
- I communicate my learning.

CTF is working independently and with others while exploring careers and technology.

- I determine how my actions affect learning.
- I develop skills that support effective relationships.
- I collaborate to achieve common goals.

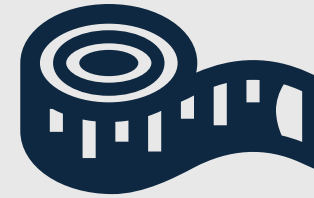
Step 1: Identify Desired Results



Step 2: Determine Acceptable Evidence of Learning



**Assessments should show
understanding, not just recall**



Examples:

Projects or prototypes
Reflections or portfolios
Peer/self-assessments

Step 3: Plan Learning Experiences

Design a CTF challenge that introduces CTS concepts

Ensure age-appropriate, hands-on learning

Embed Alberta Education Competencies (e.g., innovation, collaboration)

Questions:

What skills from CTS can be simplified for CTF?

What real-world challenge can guide the learning?

What career connections (NOC) could enrich this challenge?

Creating a CTF Challenge using PBL

Project Based Learning Is..

- open ended
- involves student voice and choice
- done in collaboration with a team
- done with the teacher acting as a guide
- sustained inquiry
- creating a product or performance
- authentic to the real world

develops competencies : critical thinking, managing information, problem solving, creativity and innovation

Project Based Learning Is NOT...

- an “end of unit” project
- a single summative assessment
- an independent student project done at home
- “setting students loose” to find an answer



Creating a CTF Challenge using PBL

Step 1:

Develop an idea and connect to the Program of Studies and Outcomes.

Step 2:

Decide what major products or performances students will create and how they will share them.

Step 3:

Map out the steps in the project and create a timeline.

Step 4:

Plan activities and lessons and gather resources.

Step 5:

Plan an engaging launch for the project.



CTF Challenges	CTS Course	CTS Cluster	NOC Alignment
Design a healthy snack for the canteen	FOD1010 – Food Basics	HRH – Health, Recreation & Human Services	63200 – Cooks
Create a digital yearbook layout	DES1020 – Layout & Design	MDC – Media, Design & Communication Arts	52120 – Graphic Designers
Build a mini website	INF1030 – Word Processing	BIT – Business, Administration, Finance & IT	21233 – Web Developers
Design a school garden	AGR1040 – Intro to Ag	NAT – Natural Resources	85100 – Landscaping Labourers

Sample CTF pathway based on student interest in "Foods..."



CTF Nomenclature In EIPS...

Cluster: Human Services

The focus is on a vast array of challenging and rewarding careers in healthcare, community support, recreation, cosmetology, food services, tourism and law.

CTS Pathway	CTF Course Name	CTF Course Description	Possible Occupations

Fabrication (FAB) Develop skills in the use of tools and materials used in fabrication processes, and safely transform common metals into useful products; learn the various skills of the welder trade.	No course offerings	Challenges can be embedded in Construction Technologies • Challenge 1	welder, boilermaker, CTS teacher, heavy equipment technician, ironworker, machinist, millwright, non-destructive testing technician, structural and steel plate fitter, boilermaker, steamfitter-pipefitter
Logistics (LOG) Organize and coordinate the movement of people, materials, and data.	CTF: Logistics 7/8/9	Logistics focusses on the coordination and movement of people and materials from one location to another. Students will begin to identify and examine logistics as a sector in our economy by exploring the different industries and career paths in areas such as warehousing, packaging and distribution, purchasing and inventory, transport, and traffic. Areas of exploration and challenges may include: • planning transportation routes (walking, biking, bussing); investigating transportation in the school division • designing a city plan • moving goods • investigating delivery services and the impact on consumerism and the environment (Amazon, Hello Fresh, etc.)	city planner, sustainability specialist, hazardous waste management technologies, human resource professional, community planner, economist, advertising account executive, data administrator, market research analyst, operations manager, truck driver, warehouse worker/supervisor
Mechanics (MEC) Inspect, diagnose, repair, and service, mechanical, electrical, and electronic systems and components of cars and light and commercial transport trucks; learn the various skills of the auto service technician trade.	No course offerings	Challenges can be embedded in Construction Technologies Challenge ideas: • Challenge 1	mechanic, instrumentation technician, avionics technician, aircraft maintenance technician, sheet metal worker, refrigeration and air conditioning mechanic, bicycle mechanic, motorcycle mechanic, heavy equipment technician, agricultural service technician, millwright (industrial mechanic)

2025-2026 CTF Detailed Course Descriptions

Human Services

Health, Recreation, & Human Services

CTF: Community Action & Awareness

CTF: Leadership

CTF: Personal Style & Image Design

CTF: Foods

CTF: Food Preparation & Presentation

CTF: Food & Textile Technologies

CTF: World of Food

CTF: Fitness and Wellness

CTF: Recreational Fitness

CTF: Sports Acceleration

CTF: Sport for Life (CLB Only)

CTF: World of Sport

Business

Business, Administration, Finance & Information Technologies

CTF: Computer Science

CTF: Robotics

CTF: Enterprise & Innovation

CTF: Money Management

CTF: Information Processing

CTF: Management & Marketing

CTF: Artisans & Entrepreneurship *NEW*

Communication

Media, Design & Communication Arts

CTF: Graphic Arts

CTF: Film Production

CTF: Communication Arts & Media Relations

CTF: Performance Arts Production

CTF: Creative Design & Production

CTF: Creative Writing & Publishing *NEW*

CTF: Design Studies

CTF: STEM Challenge

CTF: Textile Arts and Technologies

CTF: Visual Arts *NEW*

Resources

Natural Resources

CTF: Environmental Stewardship

CTF: Wildlife

Technology

Trades, Manufacturing & Transportation

CTF: Construction Technologies

CTF: Logistics

Diving Deeper...

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Enterprise and Innovation



In the CTF: Enterprise & Innovation course, students will be provided with the chance to conceive, coordinate, and oversee a project according to their own preferences. Throughout the course, students will develop skills in identifying, comparing, and evaluating various possibilities and ideas. They will also learn how to effectively plan, execute, and reflect upon their projects or innovations.

All outcomes in the [CTF Program of Studies](#) should be addressed in each CTF course.

Challenge Question	If you could learn anything in school, what would it <u>be</u> ? https://youtu.be/COF-bqZuE-I
Challenge Description	<p>In this passion project, students will have the exciting chance to conceive, arrange, and oversee a project based on their personal interests. Throughout this process, they will cultivate the ability to recognize, analyze, and evaluate different possibilities and concepts. Moreover, they will develop essential skills in project planning, implementation, and reflective thinking as they bring their unique project or innovation to life.</p> <p>This challenge will focus on project management strategies for students to effectively plan, organize, execute, and complete a passion project within a specified timeline. These strategies help students stay organized, set goals, allocate resources, manage tasks, and collaborate with team members. Here are some key project management strategies for junior high students:</p> <ol style="list-style-type: none">1. Define Project Objectives: Clearly identify the goals and objectives of the project. This helps students understand what they need to achieve and provides a sense of direction throughout the project.2. Break Down Tasks: Divide the project into smaller, manageable tasks. Students should create a list of specific actions or steps needed to complete the project. Breaking down tasks makes the project more manageable and allows for better

Resources:

Alberta Education Student Competencies

- <https://education.alberta.ca/competencies/student-competencies/>

Canada's Skills For Success

- <https://www.canada.ca/en/services/jobs/training/initiatives/skills-success.html>

National Occupational Classification

- <https://noc.esdc.gc.ca/>

EIPS Presentation File Sharing

- [2024-25 TAVE](#)